

Nature and Consequences of impact		Duration / Frequency of activity likely to cause impact	Geographical Extent	Severity (level of damage caused) if impact were to occur	Probability of impact without mitigation	Significance before application of Mitigation Measures	Will activity cause irreplaceable loss of resources?	Mitigation	Probability of impact after mitigation	Significance after application of Mitigation Measures	
The following table rates impacts after the application of mitigation measures and operates on a scale of 0-14. A score of between 1 and 5 is rated as low. A score of between 6 and 10 is rated as medium. A score of between 11 and 14 is rated as high.		0 = No impact 1 = short term / once off 2 = medium term / during operation 3 = long term / permanent	0 = No impact 1 = point of impact / restricted to site 2 = local / surrounding area 3 = regional	0 = No impact 1 = minor; 3 = medium 5 = major	0 = No impact 1 = Low 2 = Medium 3 = High	1 - 5 = low. 6 - 10 = medium. 11 - 14 = high.	10 = Yes 0 = No	0 = No impact -5 = can be fully mitigated -3 = can be partially mitigated -1 = unable to be mitigated	0 = No impact 1 = Low 2 = Medium 3 = High	1 - 5 = low. 6 - 10 = medium. 11 - 14 = high.	
		A	B	C	D	Significance	E	F	G	Significance	
OPTION 2 - PREFERRED SITE											
PHASE: CONSTRUCTION											
1	Upgrading of the existing access road.	Excessive clearing of vegetation along the edge of the existing road.	3	1	3	2	9	0	-5	1	5
2	Site camp establishment	Fuel, lubricants and chemicals brought onto site as well as the setting up of ablution facilities for staff. This could lead to spills and contamination of soil / groundwater.	1	1	3	2	7	0	-5	1	3
PHASE: OPERATION											
3	Removal of material and creation of a mining face.	Risk of collapse of the mining face if the angle of removal is not correctly planned and managed. This could lead to slippage and collapse of the slope causing damage to the surrounding environment and on-site workers.	3	1	3	2	9	0	-5	1	5
4	Clearance of vegetation from within the mining footprint.	Physical disturbance of vegetation (Vegetation Impact Assessment). There will be clearing of up to 4.9ha of vegetation as the mining area is expanded.	3	1	3	3	10	0	-3	2	9
		Disturbance stimulating a greater amount of alien plant invasion in the mining area and adjacent vegetation.	3	2	2	2	9	0	-5	1	5
		Clearance of plant species protected under the National Forest Act (No. 84 of 1998) and the KZN Nature Conservation Ordinance (No. 15 of 1974).	3	2	3	2	10	0	-5	1	6
5	Cumulative impact: Clearance of vegetation from within the mining footprint.	Cumulative impact on biodiversity due to further loss of this vegetation type and limestone habitat in this area and on the property.	2	2	2	1	7	0	-3	1	5
6	Blasting of material within the quarry footprint	Generation of flyrock as a result of blasting causing damage or injuries to neighbouring property and people.	2	2	2	1	7	0	-3	1	5
7	Noise generation during operation of plant equipment (crushing, screening and blasting) and trucks.	Noise nuisance may impact on mining workers and nearby residents.	2	2	1	2	7	0	-4	1	4
8	Dust generation during excavation of the hill and from vehicles travelling on the dirt access road.	Dust may impact air quality in the immediate area and create a nuisance and potential health risk for nearby residents. Dust coats and contributes to deterioration of adjacent vegetation.	2	2	2	2	8	0	-4	1	5
9	Generation of emissions from vehicles	Emissions for the construction vehicles on site and travelling on the access road may impact air quality in the immediate area.	2	2	3	2	9	0	-5	1	5
10	Increase in heavy truck traffic as trucks enter and leave the site to transport material to where it is required.	Safety and nuisance impact on existing traffic and pedestrians. The increase in traffic will increase the risk of collection or removal of medicinally valuable plants.	2	2	2	1	7	0	-3	1	5
11	Operation of excavators and trucks on site.	Petrochemical spills from excavators and trucks.	2	1	3	2	8	0	-5	1	4
12	Poor stormwater management during operation - "Dirty" water mixing.	Poorly managed stormwater run-off resulting in "dirty" water from within the quarry mixing.	3	2	3	2	10	0	-5	1	6
13	Poor stormwater management during operation and closure - Erosion on site.	Poorly managed stormwater run-off resulting in erosion of the site.	2	2	3	2	9	0	-5	1	5
14	Risk to water quality on nearby watercourses and wetlands.	Poorly managed stormwater run-off will cause erosion on site and may lead to deposition of material and sediment into the drainage lines to the west, and channelled valley bottom wetland to the east.	2	2	3	2	9	0	-5	1	5
15	Insufficient number of toilet facilities on site.	Contamination of the surrounding environmental as a result of insufficient number of toilet facilities.	2	2	3	2	9	0	-5	1	5
16	Location of mine.	Suitability of operation with respect to surrounding land use i.e. a visual impact, and impact on sense of place.	3	2	2	1	8	0	-4	1	5

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			A	B	C	D	Significance	E	F	G	Significance
17	Generation of waste during course of operation.	Improper storage and disposal of waste generated by drivers i.e. domestic waste, toilet waste, oil contaminated soils percolating into the natural areas around the borrow pit.	2	1	1	2	6	0	-5	1	2
18	Degradation of the Primary Grassland.	Isolation of the Primary grassland located below the preferred quarry site. Encroachment of scrub and woody vegetation into the primary grassland below quarry site.	3	1	3	1	8	0	-5	1	4
19	Quarrying contaminating the groundwater.	Contamination of the groundwater impacting the adjacent farms and borehole users.	2	2	3	2	9	0	-4	1	6
20	Effect of operation on surrounding community.	Potential positive impacts for local employment opportunities.	0	0	0	0	0	0	0	0	0
21	Cumulative impact on air quality.	Increase in the volume of dust produced which may impact air quality in the immediate area and create a nuisance and potential health risk for nearby residents.	2	2	3	2	9	0	-5	1	5
PHASE: CLOSURE / REHABILITATION											
22	Closure of the site and rehabilitation of the quarry.	If the quarry is not rehabilitated upon completion of the activity, the current activity will create an on-going safety risk and be a danger to animals who may fall off the cliff edges or be hurt by unstable collapsing rock faces. It will continue to have a visual impact on the landscape and there may be further slippage of unshaped slopes and erosion of soil above unstable slopes.	3	2	3	2	10	0	-5	1	6
OPTION 2 - PREFERRED SITE											
PHASE: OPERATION											
1	Clearance of vegetation from within the mining footprint.	Physical disturbance of vegetation (Vegetation Impact Assessment). There will be clearing of up to 4.8ha of vegetation as the mining area is expanded	3	1	4	3	11	0	-3	3	11
		Clearance of plant species protected under the National Forest Act (No. 84 of 1998) and the KZN Nature Conservation Ordinance (No. 15 of 1974).	3	2	3	2	10	0	-5	1	6
2	Cumulative impact: Clearance of vegetation from within the mining footprint	Cumulative impact on biodiversity due to further loss of this vegetation type and limestone habitat in this area and on the property	3	2	3	2	10	0	-3	1	8
3	Risk to water quality on nearby watercourses and wetlands.	Poorly managed stormwater run-off will cause erosion on site and may lead to deposition of material and sediment into the drainage lines to the west, and channelled valley bottom wetland to the east.	2	2	3	2	9	0	-3	1	7
4	Location of mine.	Suitability of operation with respect to surrounding land use i.e. a visual impact, and impact on sense of place.	3	2	2	1	8	0	-3	1	6
5	Quarrying contaminating the groundwater.	Contamination of the groundwater impacting the adjacent farms and borehole users.	2	1	2	2	7	0	-3	1	5